



FEMA

Lucas County Engineer
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Volume 1, Issue 2
February 2004

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Definitions:

- **FEMA:** Federal Emergency Management Agency
- **NFIP:** National Flood Insurance Program
- **FIRM:** Flood Insurance Rate Map
- **DFIRM:** Digital Flood Insurance Rate Maps
- **CTP:** Cooperating Technical Partner
- **MNUSS:** Map Need Update Support System
- **LOMC:** Letter of Map Change
- **LOMA:** Letter of Map Amendment
- **LOMR:** Letter of Map Revision
- **SC:** A FEMA Study Contractor, an approved contractor that works closely with FEMA.
- **MCC:** Map Coordination Contractor, works directly for FEMA
- **USGS:** United States Geological Survey, a FEMA Study Contractor
- **GIS:** Geographic Information System
- **AREIS:** Auditors Real Estate Information System

The Flood Source

A County Wide Floodplain Newsletter
For Floodplain Administrators, Engineers,
Surveyors and Elected Officials



Cooperating Technical Partner

The Lucas County Engineer and the Lucas County Auditor, under the authority of the Lucas County Commissioners, have submitted our application to become a Cooperating Technical Partner with FEMA. The purpose of this partnership is to coordinate floodplain mapping on a county wide level. Ultimately we will produce a county wide Digital Flood Rate Insurance Map (DFIRM) that would be an official FEMA map. This DFIRM would be made available to the public. This CTP partnership is for mapping activities only and does not relieve the community Floodplain Administrator from any of his/her duties.

Cooperating Technical Partner— Update

CTP is underway we have submitted our application to FEMA which included:

- A signed Partnership Agreement
 - Expresses our desire and commitment to be a CTP
- A rough draft of our first Mapping Activity Statement
 - Our first MAS is for Hydrologic & Hydraulic Studies through USGS approximately 60 mi
 - Our second MAS will be for map redelination
 - In the future we can have more MAS for more projects
- A rough draft of our Cooperative Funding Agreement
 - A total cost for the project, detailing cost sharing
- A statement that we are ready to input data into the MNUSS database
 - FEMA will provide us with a username and password so that we may enter the data into the system

We do have 2 powerpoint presentations available for your meetings, CTP and MNUSS. The CTP overview is for all floodplain administrators, engineers, surveyors and elected officials. The MNUSS workshop is just for floodplain administrators and engineers. We also have a DFIRM demonstration for the general public.

Lucas County at a glance:

- 94 panels 90 printed
- Most panels need some sort of update: Even though the Effective date is October 6, 2000 the average age of most studies is 1974 or older.

MNUSS - MAP NEED UPDATE SUPPORT SYSTEM



Assessing the Flood Mapping Needs for America's Communities

Section 575 of the National Flood Insurance Reform Act of 1994 mandates that FEMA must:

"... once during each 5-year period... assess the need to revise and update all floodplain areas and flood risk zones identified, delineated, or established (under Section 1360 of the Act) based on an analysis of all natural hazards affecting flood risks."

The Mapping Needs Assessment Process utilizes the Mapping Needs Update Support System (MNUSS), a software application that stores all identified needs nationally, performs a benefit cost analysis, and ranks the identified Map Maintenance Needs and Flood Data Update Needs for each community.

Needs are identified through:

- Floodplain Administrators
- State NFIP coordinators
- FEMA regional offices
- Cooperating Technical Partners

Map Maintenance Needs

Map Maintenance Needs relate to the information found on the community's base map. The base map, which covers the entire geographic area of the community, depicts certain physical features, such as roads and road names, railroads and names, streams, corporate limits and section lines, and Elevation Reference Marks (ERMs). The physical features on the Flood Insurance Rate Map help map users locate properties relative to the Special Flood Hazard Areas; thus, it is crucial that the features be accurate and up-to-date. There are six categories of Map Maintenance Needs.

1. Streets/street names need to be added
2. ERMs need to be added
3. Map panels need to be aligned
4. Letters of Map Change (LOMCs) need to be added
5. Map format needs to be changed to countywide format
6. Corporate limit changes need to be made

Flood Data Update Needs

A community's Flood Insurance Study (FIS) is based on hydrologic and hydraulic conditions. Hydrologic conditions determine the quantity of runoff generated by a given rainfall event, and hydraulic conditions determine the extent of the flooding caused by a given stream discharge. To determine the community's Flood Data Update Needs, any changes in these conditions since the community's FIS was

conducted should be evaluated. There are six categories of Flood Data Update Needs.

1. Hydrologic conditions have changed (i.e., historical analyses indicate a different level of rainfall than in previous calculations, or development has resulted in water volume changes in streams and rivers).
2. Hydraulic conditions have changed (i.e., water traveling through bridges, culverts, or other new or additional structures).
3. Floodplain width has changed (i.e., the area subject to inundation by the base flood is greater or less than that shown on the effective flood hazard map).
4. Base Flood Elevation (BFE) has changed (i.e., the high-water mark from a base flood storm is higher or lower than the BFE shown on the effective flood hazard map).
5. Coastal elevations have changed (i.e., the high water mark from a base flood storm, including a hurricane or other severe storm, is higher or lower than the elevations shown on the effective flood hazard map)
6. Floodplain boundaries have changed.

The Mapping Needs Assessment process helps FEMA develop map update priorities and expend the flood mapping budget in the most cost-beneficial manner. The Mapping Needs Assessment process identifies, inventories, and prioritizes flood hazard mapping needs nationwide, using the Mapping Needs Update Support System (MNUSS).

MNUSS prioritizes individual communities (e.g., cities, towns, villages, and unincorporated counties that have land use authority) based upon a quantitative comparison of the benefits of addressing a community's cumulative mapping needs to the costs of revising the community's maps against all other communities participating in the National Flood Insurance Program (NFIP).

We are calling on all the floodplain administrators to fill out the worksheets, submit it to us, the CTP, and we will get it in the database. This will be an ongoing process as to any changes in your communities.

The worksheet is located at:

www.fema.gov/pdf/fhm/mn_wksht.pdf

There is a guide as well at:

www.fema.gov/pdf/fhm/mn_guide.pdf

The County Engineer will also provide guidance as to how to fill these out, please call: Bob Neubert at 419-213-4540



Lucas County has identified 22 flood profile studies composing of 59 miles of waterway. These studies will be done by the United States Geological Survey USGS, Ohio office out of Columbus.

Approach

The Ohio District of the U.S. Geological Survey (USGS), Water Resources Division, will use appropriate engineering methods for hydrologic and hydraulic analyses and the mapping of flood boundaries. The tasks required to complete the study are presented in the following paragraphs.

Hydrology

The USGS will conduct hydrologic analyses for each stream studied in order to establish the 100- year recurrence-interval flood-peak discharge. Initial steps of the hydrologic analysis will involve determining the availability of historical stream-flow data, assessing whether the basins are significantly affected by regulation, and evaluating the potential effect of urbanization.

Estimates of peak discharges may be established by using:

- (1) Historical peak-streamflow data from USGS gaging stations,
- (2) Methods described in USGS flood-frequency reports for Ohio for unregulated and ungaged streams,

- (3) Discharge estimates from a previously published FEMA study, and
- (4) Contacting appropriate agencies who regulate any of the streams to be studied.

Hydraulics

The USGS will develop hydraulic models for each stream based upon the 100-year peak discharges determined from the hydrologic analyses. The USGS will use the Hydrologic Engineering Center-River Analysis System (HEC-RAS), a 1-dimensional step-backwater hydraulic analysis model to determine water-surface profiles for each stream. This model has been accepted by FEMA for use in Flood Insurance Studies.

Most of the out-of-channel cross-sectional geometries used in the hydraulic models will be obtained from digital elevation models that will be created using the Lucas County mapping data. The maximum distance along the stream channel between any two cross sections in the hydraulic models will not exceed 500 feet. In-channel geometry data will be surveyed by USGS personnel at hydraulic-structure approach sections and at supplemental (open channel) cross sections as needed. The in-channel data will be used to estimate channel-slopes and to supplement the overbank cross-sectional data obtained from the digital contour maps. The geometry of all hydraulic structures will also be surveyed. Roughness-coefficient data for stream channels and hydraulic structures will be estimated by experienced USGS personnel.

Summer Survey Year	Project Completed Year	Proposed LOMA Year	Name	Downstream	Upstream	Total Reach
2003	2004	2005	Ten Mile Creek	Sylvania-Metamora Rd	County Line	5.4
2003	2004	2005	Schmitz Ditch	Ten Mile Creek	Lathrop Rd	2.2
2003	2004	2005	Shantee Creek	Silver Creek	Tremainsville Rd	6.8
2003	2004	2005	Tift Ditch	Tremainsville Rd	Larkhaven Rd	3.3
2003	2004	2005	Eisenbraum Ditch	Garrison Rd	Alexis Rd	3.1
2003	2004	2005	Barnum Ditch	Tift Ditch	Willis Rd	1.2
2004	2005	2006	Silver Creek	County line	Cloverdale	7.9
2004	2005	2006	S Silver Creek	Silver Creek	Armada St	1.1
2004	2005	2006	Jamison Ditch	Silver Creek	Lewis Ave	1.2
2004	2005	2006	Ketcham Ditch	Silver Creek	Douglas Rd	1.3
2004	2005	2006	N Ketchman Ditch	Douglas Rd	Oakridge Dr	1.4
2004	2005	2006	Wing Ditch	Silver Creek	Merele Ave	0.4
2004	2005	2006	Sharp Ditch	Brint Rd	Sylvania-Metamora Rd	0.9
2004	2005	2006	Comstock Ditch	Brint Rd	Mitchaw Rd	0.9
2004	2005	2007	McPeak Ditch	Ten Mile Creek	County Line	1.0
2005	2006	2007	Peterson Ditch	Groveland Rd	Ilger Rd	1.2
2005	2006	2007	Crane Creek	Turnau Rd	2000' W of Opfer-Lentz Rd	1.9
2005	2006	2007	Lone Oak Ditch	Swan Creek	SR 295	2.8
2005	2006	2007	Disher Ditch	Blue Creek	SR 295	2.9
2005	2006	2007	Blue Creek	Swan Creek	County Line	9.0
2005	2006	2007	Blystone Ditch	SR 64	Railroad	2.2
2005	2006	2007	Mayer Ditch	I-475	Dorr St	0.5



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We're on the web at
www.co.lucas.oh.us/engineer

Lucas County Floodplain Administrators

Village of Berkey:	Mayor: Barb Huff 419-829-3810
Village of Holland:	Zoning: Lesile Ferman 419-865-7104
Village of Harbor View:	Mayor: Craig Dippman 419-698-8107
City of Maumee:	Zoning: Bruce Wolf 419-897-7075
City of Oregon:	Zoning: Doug Young 419-698-7071
Village of Ottawa Hills:	Administrator: Mark Thompson 419-525-3550
Village of Swanton:	Administrator: Jon Gochenour 419-826-9515
City of Sylvania:	Engineer: Jeff Ballmer 419-885-8965
City of Toledo:	Engineer: Frank Mortali 419-936-2546
Village of Waterville:	Administrator: Jay Bahr 419-878-8044
Village of Whitehouse:	Administrator: Randy Bukas 419-877-5635
Lucas County: (Unincorporated)	Building: John Walters 419-213-2990

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